AMBERPACK®

Demineralisation Plant

ANCHOR PRODUCTS

October 2000

SPECIFICATIONS

OPERATION:

Flow Rate	40m^3/hr
No.of Streams	1
Normal Service Cycle Time	18 hrs each
Regeneration Duration	2 hrs approx
Total Throughput between Regeneration's	720m^3
Control System	PLC

SERVICES:

Raw Water Inlet (to inlet tank)	40m^3/hr @ >1.2 Bar
Compressed Air	6 Bar
Demineralised Water for Regeneration	5.5 m^3/hr @ 3 Bar for 30 min

PREFILTER SYSTEM:

Inlet Balance Tank	3000 L Polyethylene
Prefilter	Cuno 12NDC4 316 SS housing, 10 Bar
Filters	Cuno Microklean G78C8-4, 10 micron
Inlet Pump	Grundfos CRN45-2-2 vertical SS

CATION UNIT:

Diameter	1000 mm
Length of Straight Shell	1600 mm
Construction Material	FRP
Design Pressure	5 Bar
Regeneration Method	Counter current
Resin Type/Manufacturer	Amberjet® 1200H/Rohm and Haas
Regenerant/Concentration	Hydrochloric Acid 5%

ANION UNIT:

Diameter	1000 mm
Length of Straight Shell	1800 mm
Construction Material	FRP
Design Pressure	5 Bar
Regeneration Method	Counter current
Resin Type/Manufacturer	Amberjet® 4200/Rohm and Haas
Regenerant/Concentration	Sodium Hydroxide/3%

DEGAS TOWER:

Rated Throughput	40m^3/hr
Air Blower	IPSCO NYP 106, 500m^3/hr @ 100 w.g
Degassed Water Tank	3000 litre polyethylene
Transfer Pump	Grundfos CRN 45-2-2 vertical SS

REGENERATION PLANT:

Acid Day Tank	350L, FRP
Caustic Day Tank	200L, 304SS
Hot Water Mixing System	TD-G, three port stainless steel mixing control valve with ceramic seals. PT100 and PID control
Bulk Acid Transfer Pump	Wilden P1/PP/TF Air Diaphragm Pump
Bulk Caustic Transfer Pump	Wilden P1/PP/WF Air Diaphragm Pump
Acid Dose Pump	Wallace & Tiernan Encore 700
Caustic Dose Pump	Wallace & Tiernan Encore 700

CLIENT	:	Anchor Products
CLIENT'S REPRESENTATIVE	:	Process Developments NZ Ltd
PROCESS DESIGN	:	Filtration Technology Ltd
NZ BUILDER'S	:	Filtration Technology Ltd
PROJECT MANAGER	:	Filtration Technology Ltd
SUB CONTRACTS	:	Mechanical – R W White
	:	Electrical – Sullivan & Spillane
	:	PLC – Intellex
	:	Tanks – Auckland Plastics & Design

THE AMBERPACK® SYSTEM

This AMBERPACK® plant is unique in that it uses Rohm and Haas licensed design criteria, giving a packed resin bed plant with superior flow and ion exchange characteristics to conventional style demineraliser plants.

The resins used in the plant are Rohm and Haas Amberjet® uniform bead size resins, which contribute to the performance of the plant.

Some of the major benefits of this style of demineraliser plants are:

- Smaller exchange vessel sizes giving reduced capital cost and smaller footprint.
- Specially engineered flow characteristics within the vessels to give very efficient exchange and regeneration cycles.
- Lower regeneration chemical usage gives lower running costs.
- Rapid rinse down to set point conductivity means shorter regeneration cycle time - shorter time off line.
- Future expansion – additional demineraliser trains can be added easily using shared regeneration system.

The AMBERPACK® demineralisation plant is controlled by a purpose designed computer programme running in conjunction with Clandeboye WPC control system. A full graphics screen interface is used enabling all functions of the plant to be controlled by the operator from the control centre.